

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously presented) In a solid oxide fuel cell, an interconnect assembly comprising:
a separator plate having two opposed surfaces; and
at least one electron conducting compliant interconnect having a first coefficient of thermal expansion, the compliant interconnect being in electrical communication with the separator plate, the compliant interconnect comprising a compliant superstructure having a first portion defining a separator plate contact zone permanently bonded to said separator plate and a second portion defining an electrode contact zone permanently bonded to an electrode having a second coefficient of thermal expansion different from said first coefficient of thermal expansion, wherein the superstructure is porous to operating fuel cell gaseous materials, and wherein the interconnect comprises a woven substructure formed into said superstructure and defining the separator plate contact zone and the electrode contact zone.

2. (Canceled).

3. (Canceled).

4. (Previously presented) The assembly of claim 1, wherein said superstructure comprises a first plurality of

substructures disposed in a first direction and a second plurality of substructures disposed in a second direction different from said first direction so as to define a woven structure.

5. (Previously presented) The assembly of claim 4 wherein at least one substructure is pre-buckled.

6. (Previously presented) The assembly of claim 4 wherein said substructures comprise wires, and wherein said woven structure is a wire weave.

7. (Previously presented) The assembly of claim 4 wherein said substructures comprise pre-buckled wires, and wherein said woven structure is a wire weave.

8. (Previously presented) The assembly of claim 4 wherein said superstructure is dimpled, and wherein further a first plurality of dimples define said separator plate contact zone and a second plurality of dimples define said electrode contact zone.

9. (Original) The assembly of claim 8 wherein said first plurality of dimples extend substantially opposite to said second plurality of dimples.

10. (Original) The assembly of claim 1 wherein said interconnect is a cathode-side interconnect.

11. (Original) The assembly of claim 1 wherein said interconnect is an anode-side interconnect.

12. (Original) The assembly of claim 1, wherein said superstructure has a compliance of at least about 5×10^{-6} mm^2/N .

13. (Original) The assembly of claim 1, wherein said superstructure has a compliance of at least about 5×10^{-5} mm^2/N .

14. (Original) The assembly of claim 1, wherein said superstructure has a compliance of at least about 5×10^{-4} mm^2/N .

15. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially orthogonal channel.

16. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially slanted channel.

17. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially square channel.

18. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially rectangular channel.

19. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially sinusoidal channel.

20. (Previously presented) The assembly of claim 1, wherein said superstructure is shaped to include at least one substantially hour-glass shaped channel.

21. (Previously presented) The assembly of claim 1, wherein said superstructure is comprised of a stainless steel, stainless steel alloy, or nickel-based super-alloy.

22. (Previously presented) The assembly of claim 1, wherein said superstructure is comprised of a nickel-chromium-based alloy.

23. (Previously presented) The assembly of claim 1, wherein said superstructure is comprised of a noble metal-coated alloy.

24. (Previously presented) The assembly of claim 1, wherein said superstructure is comprised of a composite of at least two materials.

25-48. (Canceled).

49. (Previously presented) A solid oxide fuel cell stack comprising:

at least three solid oxide fuel cell assemblies in electrical contact, wherein at least one solid oxide fuel

cell assembly comprises an electrode, a separator plate, and an electron conducting compliant interconnect having a first coefficient of thermal expansion, the compliant interconnect being positioned between the electrode and the separator plate, the interconnect comprising a compliant superstructure having a first portion defining a separator plate contact zone permanently bonded to said separator plate and a second portion defining an electrode contact zone permanently bonded to said electrode, said electrode having a second coefficient of thermal expansion which is different from said first coefficient of thermal expansion, wherein the superstructure is porous to operating fuel cell gaseous materials, and wherein the interconnect comprises a woven substructure formed into a superstructure defining the separator plate contact zone and the electrode contact zone.

50. (Canceled).

51. (Canceled).

52. (Previously presented) The apparatus of claim 49, wherein said superstructure comprises a first plurality of substructures disposed in a first direction and a second plurality of substructures disposed in a second direction different from said first direction so as to define a woven structure.

53. (Previously presented) The assembly of claim 1, wherein the superstructure has a substantially sinusoidal

cross section along at least two different lines in a plane of the superstructure.

54. (Cancelled)

55. (Previously presented) The apparatus of claim 49, wherein the superstructure has a substantially sinusoidal cross section along at least two different lines in a plane of the superstructure.

56. (Previously presented) The assembly of claim 1, wherein the interconnect further comprises connecting portions between the first contact surfaces and the second contact surfaces, wherein the connecting portions extend away from the first contact surfaces toward the second contact surfaces, and wherein the connecting portions converge as they extend away from the first contact surfaces.

57. (Cancelled)

58. (Previously presented) The apparatus of claim 49, wherein the interconnect further comprises connecting portions between the first contact surfaces and the second contact surfaces, wherein the connecting portions extend away from the first contact surfaces toward the second contact surfaces, and wherein the connecting portions converge as they extend away from the first contact surfaces.

59. (previously presented) The assembly of claim 1, wherein the electrode is a ceramic electrode.

60. (previously presented) The apparatus of claim 49, wherein the electrode is a ceramic electrode.

61. (Previously presented) The assembly of claim 1, wherein the interconnect is defined by wires in a woven structure defining said separator plate contact zone and said electrode contact zone, wherein said wires have a thickness and wherein said separator plate contact zone and said electrode contact zone are spaced from each other a distance which is greater than said thickness of said wires.

62. (Previously presented) The assembly of claim 49, wherein the interconnect is defined by wires in a woven structure defining said separator plate contact zone and said electrode contact zone, wherein said wires have a thickness and wherein said separator plate contact zone and said electrode contact zone are spaced from each other a distance which is greater than said thickness of said wires.